

DOE's Vehicle Technologies Office

VT Deployment Project summary – June 8, 2017



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

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CLEAN CITIES LEADERSHIP TEAM

Vehicle Technology Deployment Strategies

Accelerate market transformation with **visible examples**, **objective data**, **tools**, and key **lessons learned** that benefit future users

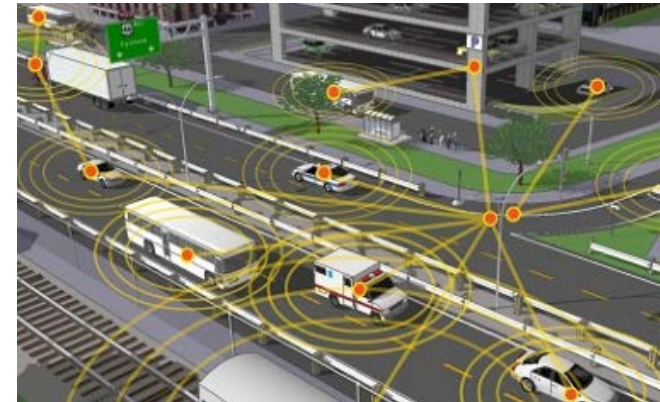
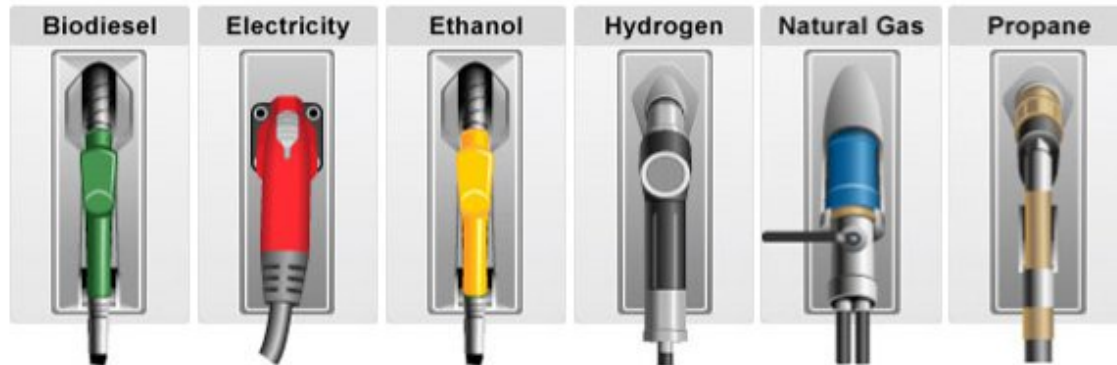
- **Information resources and tools** provide objective **data** to help local communities and end-users make informed decisions that best suit their needs
- **Expert technical assistance** helps cities, fleets, and other early adopters address market barriers and solve real-world end-use problems
- **Training** builds knowledge, skills and expertise to enable widespread use and builds a future workforce
- **Competitively-awarded living labs and vehicle and infrastructure projects** *(Federal cost-share encourages initial private sector match and long-term investment)*

Energy Independence/Efficiency in the Transportation Sector

Light-, medium-, and heavy-duty vehicles



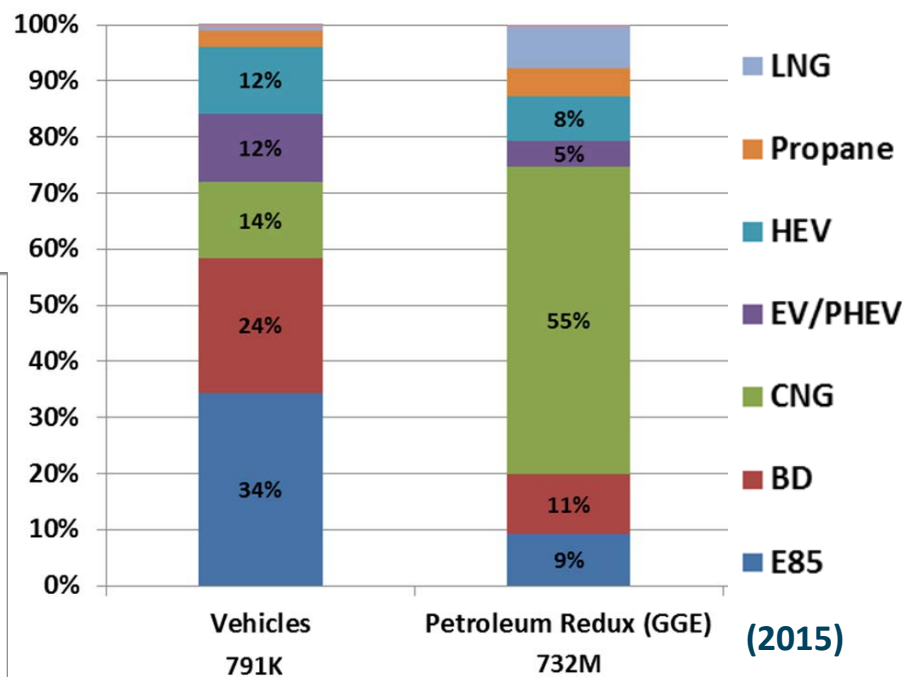
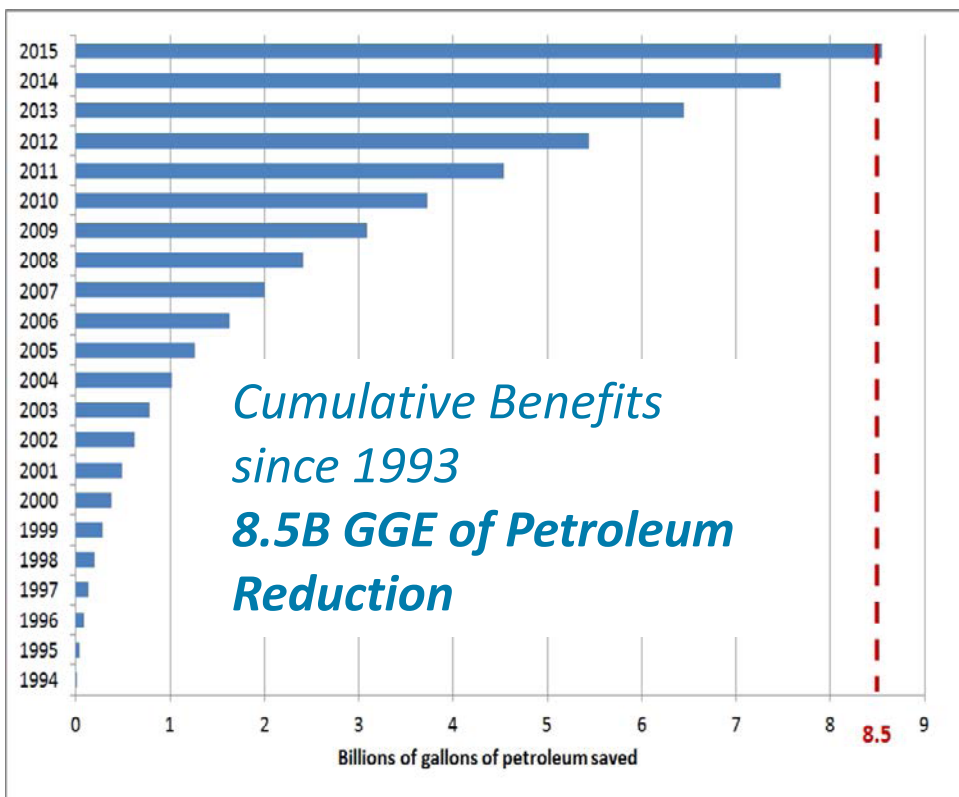
Alternative Fuel Infrastructure



Energy Efficient
Mobility Systems and
Technologies

Deployment Program Metrics

On track to meet goal of saving
2.5 billion gallons of petroleum
per year by 2020



Key Success Factors

- Local and community-based coalitions/public-private partnerships
- Strong industry and end-user partnerships
- National laboratory expertise in vehicle technologies, data collection, and analysis
- Close coordination with other Federal agencies and State/Regional/Local governments
- Leveraging People and Resources



Locally-based Public-Private Partnerships

Nearly 100 *Clean Cities coalitions* with thousands of stakeholders, representing ~80% of U.S. population



Highlight: Data, Information, and Tools

www.fueleconomy.gov
the official U.S. government source for fuel economy information

Top 1%
of all Federal sites

#18
of 2100

26.5M
views/month

User
agreements

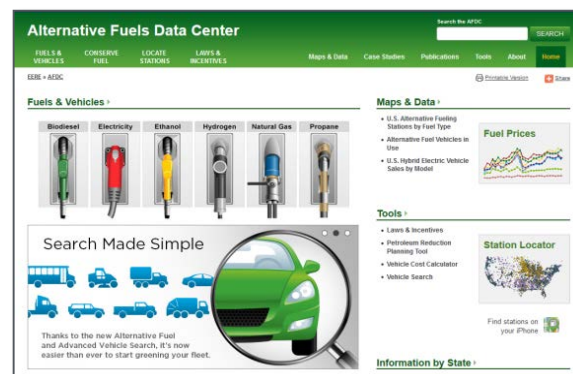
Alternative Fuels Data Center

Top 13%
of all Federal sites

#276
of 2100

444K
views/month

User
agreements



Data based on monthly page views from 7/26/2016 to 8/24/2016 and compared to data gathered about Federal Sites on analytics.usa.gov. See <https://analytics.usa.gov/#explanation> for details on how analytics.usa.gov tracks data on how people are interacting with the government online. AFDC uses Google Analytics for web traffic statistics and FuelEconomy.gov uses Urchin.

Highlight: Technical and Problem Solving Assistance

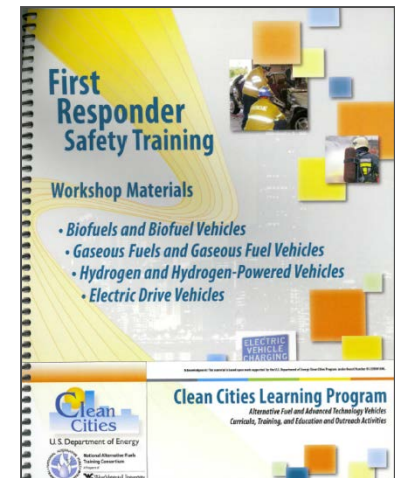
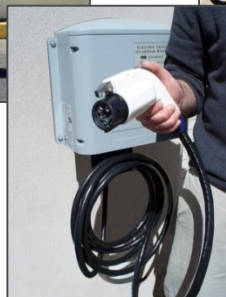


- Capture lessons learned and develop best practices
- Technical Forums and User Groups
- Address unforeseen permitting and safety issues
- Identify chronic vehicle or infrastructure field problems
- Incident investigations (learn from failures)



Competitively-Awarded Financial Assistance

- Community Readiness and Policy Development
- Infrastructure Development (fueling/charging stations)
- Vehicle Deployment (optimization & incremental cost)
- Curriculum Development (safety and technical courses)
- High-Visibility Demonstration projects
- Hands-on Fleet and Driver Experience projects
- Aggregate purchasing to create economies of scale



Take note of Key Project Elements

- Projects integrate a wide variety of valuable deployment initiatives
- New transportation mobility efforts are emerging
- Tools/data continue to be improved and expanded and serve as backbone for many third-party activities
- Stakeholders are getting help solving complex problems through expert technical assistance and teaming up with experienced partners
- Strong network of local Clean Cities coalitions is essential to success

FY 2015 Funding Opportunity Description

Alternative Fuel Vehicle Deployment Initiatives

The objective of this FOA is to create and implement high impact and highly innovative approaches to increase the acceptance and deployment of Alternative Fuel Vehicles (AFVs), in three Areas of Interest (AOIs):

- **AOI 1:** Demonstrations via hands-on experiences
- **AOI 2:** Safety-related training
- **AOI 3:** Emergency preparedness (**presented last year*)

11 Projects Total
\$5,850,985 DOE Share
\$3,211,985 Cost Share
TOTAL: \$9,062,970

- 5 projects presenting at 2017 Annual Merit Review. 6 presented at 2016 AMR.
- Period of Performance start dates varied between May and Sept 2015
- 2 year performance periods

FY 2015 - Area of Interest 1

Alternative Fuel Vehicle (AFV) Demonstration and Enhanced Driver Experience Projects

- *Allow users to experience AFVs and analyze the benefits of using them*
- *Assess the enhanced driver experience and consumer awareness/education impacts of the project*
- *Identify any financial and non-financial incentives that will be offered as well as any special programs that will stimulate consumer interest as a result of the project*

5 Projects Awarded

Total DOE Funding: \$2,115,985

Cost Share Requirement: 50%



1. Florida Department of Agriculture and Consumer Services, Office of Energy
2. ASG Renaissance
3. **Clean Fuels Ohio**
Project Title: Midwest D.R.I.V.E.S. Initiative: Demonstrating Reliable Innovative Vehicle Energy Solutions
4. **Penske Truck Leasing Co., L.P.**
Project Title: Penske Truck Leasing Alternative Fuel Vehicle (AFV) Demonstration and Enhanced Driver Experience Project
5. **Triangle J Council of Governments**
Project Title: Southeast Alternative Fuels Demonstration Initiative (SADI)

FY 2015 - Area of Interest 2

Alternative Fuel Training for First Responders, Public Safety Officials, and Critical Service Providers

- *Develop and/or deliver alternative fuel safety and technical training to emergency first responders, public safety officials, and critical service providers that have a broad impact across the alternative fuel user community.*

5 Projects Awarded

Total DOE Funding: \$2,935,000

Cost Share Requirement: 20%



1. West Virginia University Research Corporation
2. National Fire Protection Association
3. Metropolitan Energy Center, Inc.
4. **North Central Texas Council of Governments (NCTCOG)**
Project Title: Filling Critical Gaps Through Innovative Cradle-To-Grave Training
5. **University of Central Florida**
Project Title: Creating an Alternative Fuel Training Network for Florida



FY 2016 Funding Opportunity Description

Alternative Fuel and Advanced Vehicle Procurement Aggregating Initiatives

The objective of this FOA is to develop and implement effective purchasing/procurement processes designed to coordinate and consolidate bulk orders of alternative fuel vehicles, sub-components, advanced vehicle technologies, alternative fuels, and/or refueling/charging infrastructure to significantly reduce the incremental cost of commercially available vehicles and/or critical components in markets nationwide.

2 Projects Total
\$2,957,675 DOE Share
\$812,057 Cost Share
TOTAL: \$3,769,732



Period of Performance 3/15/2016 thru 3/14/2018 (2 year performance periods)

1. **CALSTART**

Project Title: Increasing Nationwide ZEV Adoption

2. **National Association of Regional Councils**

Project Title: Aggregated Alternative Technology Alliance